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The buried layer of Fig. 8 may be formed in a similar manner as described above for buried layer 56, but using a different patterned mask layer for the impurity introduction discussed with reference to Fig. 2. For example, rather than forming a single opening in a masking layer (e.g., a photoresist layer) as may be done to form n+ structure 42 of Fig. 2, two openings in a masking layer are formed to introduce impurities for buried layer portions 86 and 88. The spacing needed between two such openings in the masking layer depends on the final separation of the buried layer portions desired, allowing for diffusion during processing. The final desired separation in turn depends on details, such as doping levels, of the particular fabrication process used. In some embodiments, for example, a masking layer spacing of about 2.1 microns may result in a post-processing separation of about 1.2 microns between the buried layer portions. In an embodiment, the separation between the buried layer portions after processing is such that the oppositely-doped region between the portions is "pinched off" during operation by depletion regions at the lower end of the buried layer, while retaining some undepleted material at the upper end of the buried layer. Such an embodiment is illustrated using dashed-line depletion region boundaries 90 in Fig. 8. The buried layer separation may be designed so that the "pinch-off" occurs when outer buried layer portion 88 is connected to VCC (for an n+ buried layer). This "pinch-off" may substantially reduce the coupling of noise generated by n-channel transistor 63 to p-type substrate 46. It is noted that no new photolithography masks are required for implementation of the buried layer embodiments described herein (as compared to a conventional fabrication process using buried layers). The structures described herein may instead be implemented by modification of an existing buried layer mask.

IN THE CLAIMS

Please cancel claims 14-16, 22, and 26-28 without prejudice or disclaimer as to the subject matter recited therein.

REMARKS

The Specification has been amended to correct typographical errors only and, thus, does not present new matter. Claims 14-16, 22, and 26-28 have been canceled. Thus, claims 1-13, 17-21 and 23-25 are currently pending in the case. Further examination and reconsideration of the presently claimed application are respectfully requested.